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MECADEZ CORE TECHNOLOGIES PRIVATE LIMITED
PROJECT MANAGEMENT & CONSULTANCYSERVICES

Test Report
Steel

	Improvements to roads and drains from Baglur Main Road to Shivapura in Ward No.05
	Executive Engineer, Project Division Yalahanka
	MCTPL/BBMP/Project-YNK/2017-2018/QR/03
	M/s KRIDL
	Bar
	Steel
	1
	7-May-2018

Dia in mm	Weight in Kg/mtr	Average Weight Kg/mtr	Ultimate Load in KN	Ultimate Tensile stress in N/mm^2	Average Ultimate Tensile Stress N/mm^2	Elongation in mm	Bending and Rebending
8	0.395	0.4	32.2	640.6	622.7	20	OK
8	0.398		30.4	604.79			
10	0.601	0.6	47.2	600.97	597.15	20	OK
10	0.593		46.6	593.33			
12	0.896	0.88	72.8	643.69	631.32	20	OK
12	0.872		70	618.94			
16	1.598	1.6	118.5	589.37	595.59	20	OK
16	1.605		121	601.8			

The results indicated above are based on the tests carried out on the sample at site.

The results relate only to the items tested.

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Any query regarding the report must be reported immediately.

Mecadez Core Technologies Private Limited

Authorised Signature

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MECADEZ CORE TECHNOLOGIES PRIVATE LIMITED
PROJECT MANAGEMENT & CONSULTANCY SERVICES

Test Report
Rate of Spread of Prime Coat

Project Name	Improvements to roads and drains from Baglur Main Road to Shivapura in Ward No.05
Client	Executive Engineer, Project Division Yalahanka
Job No.	MCTPL/BBMP/Project-YNK/2017-2018/QR/03
Mix Type	Wet Mix Macadam
Contractor	M/s KRIDL
Location	At Site
Material	Bitumen
Sample No	1
Date	23-May-2018

Sl. No.	Determination	Unit	Test No 1		
			Longitudinal Distribution		
1	Size of Plate (mxn)	m^2	0.2x0.2	0.2x0.2	0.2x0.2
2	Area of the Plate (a)	m^2	0.04	0.04	0.04
3	Initial weight of the empty Plate (b)	kg	1.641	1.641	1.641
4	Final weight of plate after application of Tack Coat (c)	kg	1.692	1.653	1.653
5	Weight of Prime coat/ Tack Coat (d = c-b)	kg	0.051	0.012	0.012
6	Rate of spread (d/a)	kg / m^2	1.275	0.300	0.300
7	Average	kg / m^2	0.625		
8	Specified Limit	kg / m^2	Not less than 0.6 kg / m^2		

Results: Rate of Spread of Prime Coat / Tack Coat is: 0.625 kg / m2

Note:

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For Mecadez Core Technologies Private Limited

Test Report
Rate of Spread of Prime Coat

Project Name	Improvements to roads and drains from Baglur Main Road to Shivapura in Ward No.05
Client	Executive Engineer, Project Division Yalahanka
Job No	MCTPL/BBMP/Project-YNK/2017-2018/QR/03
Mix Type	Wet Mix Macadam
Contractor	M/s KRIDL
Location	At Site
Material	Bitumen
Sample No	2
Date	24-May-2018

Sl. No.	Determination	Unit	Test No 1		
			Longitudinal Distribution		
1	Size of Plate (mxn)	m^2	0.2x0.2	0.2x0.2	0.2x0.2
2	Area of the Plate (a)	m^2	0.04	0.04	0.04
3	Initial weight of the empty Plate (b)	kg	1.641	1.641	1.641
4	Final weight of plate after application of Tack Coat (c)	kg	1.691	1.652	1.652
5	Weight of Prime coat/ Tack Coat (d = c-b)	kg	0.05	0.011	0.011
6	Rate of spread (d/a)	kg / m^2	1.25	0.275	0.275
7	Average	kg / m^2	0.600		
8	Specified Limit	kg / m^2	Not less than 0.6 kg / m^2		

Results: Rate of Spread of Prime Coat / Tack Coat is: 0.600 kg / m2

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For Mecadez Core **Technologies Private Limited**

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Test Report
Rate of Spread of Prime Coat

Project Name	Improvements to roads and drains from Baglur Main Road to Shivapura in Ward No.05
Client	Executive Engineer, Project Division Yalahanka
Lab No.	MCTPL/BBMP/Project-YNK/2017-2018/QR/03
Work Type	Wet Mix Macadam
Contractor	M/s KRIDL
Location	At Site
Material	Bitumen
Sample No	3
Date	23-May-2018

Sl. No.	Determination	Unit	Test No 1		
			Longitudinal Distribution		
1	Size of Plate (mxn)	m^2	0.2x0.2	0.2x0.2	0.2x0.2
2	Area of the Plate (a)	m^2	0.04	0.04	0.04
3	Initial weight of the empty Plate (b)	kg	1.641	1.641	1.641
4	Final weight of plate after application of Tack Coat (c)	kg	1.691	1.653	1.653
5	Weight of Prime coat/ Tack Coat (d = c-b)	kg	0.05	0.012	0.012
6	Rate of spread (d/a)	kg / m^2	1.25	0.3	0.3
7	Average	kg / m^2	0.633		
8	Specified Limit	kg / m^2	Not less than 0.6 kg / m^2		

Results: Rate of Spread of Prime Coat / Tack Coat is: 0.633 kg / m2

Notes:

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PROJECT MANAGEMENT & CONSULTANCY SERVICES

Test Report
Rate of Spread of Prime Coat

Project Name	Improvements to roads and drains from Baglur Main Road to Shivapura in Ward No.05
Client	Executive Engineer, Project Division Yalahanka
Job No	MCTPL/BBMP/Project-YNK/2017-2018/QR/03
Mix Type	Wet Mix Macadam
Contractor	M/s KRIDL
Location	At Site
Material	Bitumen
Sample No	4
Date	24-May-2018

Sl. No.	Determination	Unit	Test No 1		
			Longitudinal Distribution		
1	Size of Plate (mxn)	m^2	0.2x0.2	0.2x0.2	0.2x0.2
2	Area of the Plate (a)	m^2	0.04	0.04	0.04
3	Initial weight of the empty Plate (b)	kg	1.641	1.641	1.641
4	Final weight of plate after application of Tack Coat (c)	kg	1.692	1.653	1.651
5	Weight of Prime coat/ Tack Coat (d = c-b)	kg	0.051	0.012	0.01
6	Rate of spread (d/a)	kg / m^2	1.275	0.300	0.250
7	Average	kg / m^2	0.608		
8	Specified Limit	kg / m^2	Not less than 0.6 kg / m^2		

Results: Rate of Spread of Prime Coat / Tack Coat is: 0.608 kg / m2

Note:

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Test Report
Aggregate Impact Value

Project Name	Improvements to roads and drains from Baglur Main Road to Shivapura in Ward No.05
Client	Executive Engineer, Project Division Yalahanka
Job No	MCTPL/BBMP/Project-YNK/2017-2018/QR/03
Mix Type	Wet Mix Macadam
Contractor	M/s KRIDL
Material	Coarse Aggregate
Test Method	IS : 2386 (Part - 4) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	At Site
Sample No	1
Date	15-May-2018

Sl. No.	Determination	Unit	Trails	
1	Weight of empty cylinder, w1	gm	960	960
2	Weight of container filled with Aggregate, w2	gm	1313	1307
3	Weight of the Aggregate before compaction, (w2 - w1) = w3	gm	353	347
4	Weight of the sample passing through 2.36 mm IS sieves after Impact, w4	gm	84	82
5	Weight of the sample retained on 2.36 mm IS sieve after Impact, w5	gm	269	265
6	Aggregate Impact Value (w4 / w3)x100	%	23.80	23.63
7	Specified Limit	%	30	

Results: Average Aggregate Impact Value: **23.72** %

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For Mecadez Core Technologies Private Limited

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Test Report
Aggregate Particle Shape

Project Name	Improvements to roads and drains from Baglur Main Road to Shivapura in Ward No.05
Client	Executive Engineer, Project Division Yalahanka
Job No.	MCTPL/BBMP/Project-YNK/2017-2018/QR/03
Test Type	Wet Mix Macadam
Contractor	M/s KRIDL
Test Method	IS : 2386 (Part - 1) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	At site
Material	Coarse Aggregates
Sample No.	1
Date	15-May-2018

I.S. Sieves Size		Weight of Retained Sample on Each Sieve (minimum 200 Pieces) (gm)	Flakiness Index		Elongation Index	
Passing through IS Sieves (mm)	Retained on IS Sieves (mm)		Thickness Gauge	Weight of Aggregates in each fraction passing on thickness gauges (gm)	Length Gauge	Weight of Aggregates in Fraction retained on length gauges (gm)
63	50	0	33.9	0	-	0
50	40	0	27	0	81	0
40	25	25	19.5	0	58.5	0
31.5	25	35	16.95	0	-	0
25	20	1557	13.5	237	40.5	255
20	16	1445	10.8	124	32.4	151
16	12.5	954	8.55	149	25.6	156
12.5	10	472	6.75	74	20.2	80
10	6.3	233	4.89	55	14.7	62
	SW	4721	SWf	639	SWe	704

Flakiness Index 13.54 %

Elongation Index 14.91 %

Combined Flakiness and Elongation Indices : 28.45 %

Comments: Maximum allowable Combined Flakiness and Elongation Indices for WMM is 35%

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Test Report
Aggregate Gradation

Project Name	Improvements to roads and drains from Baglur Main Road to Shivapura in Ward No.05
Client	Executive Engineer, Project Division Yalahanka
Job No	MCTPL/BBMP/Project-YNK/2017-2018/QR/03
Test Type	Wet Mix Macadam
Contractor	M/s KRIDL
Test Method	IS : 2386 (Part - 1) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Wet Mix Plant
Material	Coarse Aggregates
Sample No	1
Date	15-May-2018

Weight of Sample: 4000 gms

I.S. Sieve size (mm)	Weight Retained (gm)	Percentage of weight Retained (%)	Cumulative Percentage of weight retained	Cumulative % of Passing		Remarks
				Test Result	Gradation Limits as per MORT&H	
53	0	0	0	100	100	Gradation satisfies the MORT&H Specification for Wet Mix macadam
45	107	2.68	2.68	97.32	95-100	
22.4	1103	27.58	30.26	69.74	60-80	
11.2	807	20.18	50.44	49.56	40-60	
4.75	715	17.88	68.32	31.68	25-40	
2.36	409	10.23	78.55	21.45	15-30	
0.06	306	7.65	86.2	13.8	(8-22)	
0.075	471	11.78	97.98	2.02	0-5	

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Test Report
Aggregate Gradation

Project Name	Improvements to roads and drains from Baglur Main Road to Shivapura in Ward No.05
Client	Executive Engineer, Project Division Yalahanka
Lab No	MCTPL/BBMP/Project-YNK/2017-2018/QR/03
Test Type	Wet Mix Macadam
Contractor	M/s KRIDL
Test Method	IS : 2386 (Part - 1) 1963 & Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Wet Mix Plant
Material	Coarse Aggregates
Sample No	2
Date	16-May-2018

Weight of Sample: **4000 gms**

Sl. No.	I.S. Sieve size (mm)	Weight Retained (gm)	Percentage of weight Retained (%)	Cumulative Percentage of weight retained	Cumulative % of Passing		Remarks
					Test Result	Gradation Limits as per MORT&H	
1	53	0	0	0	100	100	Gradation satisfies the MORT&H Specification for Wet Mix macadam
2	45	107.5	2.69	2.69	97.31	95-100	
3	22.4	1103.5	27.59	30.28	69.72	60-80	
4	11.2	807.5	20.19	50.47	49.53	40-60	
5	4.75	715.5	17.89	68.36	31.64	25-40	
6	2.36	409.5	10.24	78.6	21.4	15-30	
7	0.06	306.5	7.66	86.26	13.74	(8-22)	
8	0.075	471.5	11.79	98.05	1.95	0-5	

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Test Report
Liquid and Plastic Limit by Cone Apparatus

Project Name	Improvements to roads and drains from Baglur Main Road to Shivapura in Ward No.05
Client	Executive Engineer, Project Division Yalahanka
Job No	MCTPL/BBMP/Project-YNK/2017-2018/QR/03
Test Type	Wet Mix Macadam
Contractor	M/s KRIDL
Test Method	Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Wet Mix Plant
Material	Coarse Aggregates
Sample No	1
Date	15-May-2018

Sl No	Description	Unit	Liquid Limit	Plastic Limit
	Penetration	mm		
1	Container No	no		
2	Weight of container,(A)	gm		
3	Weight of container + wet s	gm		
4	Weight of container + dry s	gm	**Non Plastic**	**Non Plastic**
5	Weight of water, D=(B - C	gm		
6	Weight of dry soil, E=(C - A	gm		
7	Water Content, D/E x 100	gm		

Comments: <6 so Non Plastic

Note:

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For Mecadez Core Technologies Private Limited

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Test Report
Liquid and Plastic Limit by Cone Apparatus

Project Name	Improvements to roads and drains from Baglur Main Road to Shivapura in Ward No.05
Client	Executive Engineer, Project Division Yalahanka
Job No	MCTPL/BBMP/Project-YNK/2017-2018/QR/03
Mix Type	Wet Mix Macadam
Contractor	M/s KRIDL
Test Method	Specification for Road & Bridge Works, MORT&H, Rev. V.
Location	Wet Mix Plant
Material	Coarse Aggregates
Sample No	2
Date	16-May-2018

Sl No	Description	Unit	Liquid Limit	Plastic Limit
	Penetration	mm		
1	Container No	no		
2	Weight of container,(A)	gm		
3	Weight of container + wet soil, (B)	gm		
4	Weight of container + dry soil, (C)	gm	**Non Plastic**	**Non Plastic**
5	Weight of water, D=(B - C)	gm		
6	A)	gm		
7	100 (%)	gm		

Comments: <6 so Non Plastic

Note:

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Test Report
Field Density Test by Sand Replacement Method

Project Name	Improvements to roads and drains from Baglur Main Road to Shivapura in Ward No.05
Client	Executive Engineer, Project Division Yalahanka
Job No	MCTPL/BBMP/Project-YNK/2017-2018/QR/03
Mix Type	Wet Mix Macadam
Contractor	M/s KRIDL
Test Method	IS: 2720 (Part - 16) 1963 & Specification for Road & Bridge Works,
Location	bay
Material	Wet Mix Macadam
Sample No	1
Date	18-May-2018

Test Hole No	1
MDD	2.24
OMC in %	3.2
Bulk Density Ys	1.392
Weight of Sand In cone W1 (gm)	1195
Weight Of Wet soil From Hole (W2)	4324
Sand +Cylinder Before Pouring (W3)gm	17000
Sand +Cylinder After Pouring (W4) gm	13175
Sand In Hole: W5 = W3 - W4- W1 (gm)	2630
Volume of Hole: V= W5/ Ys	1889.37
Bulk Density Yb= W2/V (gm/cc)	2.29
Moisture Meter Reading (%)	1.586
Moisture Content : w (From Graph In %)	3.3
Dry Density Yd = Yb/(1+W/100)	2.22
Field Compaction(%)	98.91

Note:

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For Mecadez Core Technologies Private Limited

Test Report
Field Density Test by Sand Replacement Method

Project Name	Improvements to roads and drains from Baglur Main Road to Shivapura in Ward No.05
Client	Executive Engineer, Project Division Yalahanka
Job No	MCTPL/BBMP/Project-YNK/2017-2018/QR/03
Mix Type	Wet Mix Macadam
Contractor	M/s KRIDL
Test Method	IS: 2720 (Part - 16) 1963 & Specification for Road & Bridge Works,
Location	bay
Material	Wet Mix Macadam
Sample No	2
Date	19-May-2018

Test Hole No	2
MDD	2.24
OMC in %	3.20
Bulk Density Ys	1.39
Weight of Sand In cone W1 (gm)	1195.00
Weight Of Wet soil From Hole (W2)	4328.00
Sand +Cylinder Before Pouring (W3)gm	17000.00
Sand +Cylinder After Pouring (W4) gm	13173.00
Sand In Hole: W5 = W3 - W4- W1 (gm)	2632.00
Volume of Hole: V= W5/ Ys	1890.80
Bulk Density Yb= W2/V (gm/cc)	2.29
Moisture Meter Reading (%)	1.59
Moisture Content : w (From Graph In %)	3.31
Dry Density Yd = Yb/(1+W/100)	2.22
Field Compaction(%)	98.91

Note:

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Test Report
Quality of Bitumen

Name	Improvements to roads and drains from Baglur Main Road to Shivapura in Ward No.05
	Executive Engineer, Project Division Yalahanka
	MCTPL/BBMP/Project-YNK/2017-2018/QR/03
	Bituminous Concrete (BC)
	M/s KRIDL
	IS : 73 – 1992 & Specification for Road & Bridge Works, MORT&H,
Bitumen	60 / 70
	Hot Mix Plant
	Bitumen
	1
	25-May-2018

Sl. No.	Description	Test Results	Requirement as per IS:73 - 1992
1	Penetration at 25^0C , 1 / 10 mm	64	60 – 70
2	Softening Point, (^{0}C)	55	45 – 55
3	Specific Gravity	1.1	Min. 0.97
4	Ductility at 27^0C, in cm	83	Min. 75
5	Flash Point, (^{0}C)	187	Min. 175

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Test Report
Quality of Bitumen

Project Name	Improvements to roads and drains from Baglur Main Road to Shivapura in Ward No.05
Client	Executive Engineer, Project Division Yalahanka
Job No	MCTPL/BBMP/Project-YNK/2017-2018/QR/03
Mix Type	Bituminous Concrete (BC)
Contractor	M/s KRIDL
Test Method	IS : 73 – 1992 & Specification for Road & Bridge Works, MORT&H,
Grade of Bitumen	60 / 70
Location	Hot Mix Plant
Material	Bitumen
Sample No	2
Date	26-May-2018

Sl. No.	Description	Test Results	Requirement as per IS:73 - 1992
1	Penetration at 25^0C , 1 / 10 mm	66	60 – 70
2	Softening Point, (^{0}C)	52	45 – 55
3	Specific Gravity	1.1	Min. 0.97
4	Ductility at 27^0C, in cm	84	Min. 75
5	Flash Point, (^{0}C)	179	Min. 175

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